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ABSTRACT

This report was prepared for the Dothan City Board of Education by the Human Resources Research Organization to describe work done as a part of the Dothan City Schools' project "Comprehensive Services for Socio-Emotional Conflict," a three-year project which had as its fundamental objective the reduction of undesirable effects of socio-emotional conflict suffered by students. Principally, this report describes the effect of a special in-service training program for elementary school teachers on selected classroom behaviors of students. In addition, it describes a method of training lay observers to collect classroom behavioral data. (Author)

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The Occurrence of Inappropriate Classroom Behavior Among Elementary School Students

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HumRRO Division No. 6
Dothan, Alabama

July 1972

Prepared for

Dothan City Board of Education
Dothan, Alabama

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FOREWORD

This report was prepared for the Dothan City Board of Education by the Human Resources Research Organization (HumRRO) to describe work done as a part of the Dothan City Schools' project "Comprehensive Services for Socio-Emotional Conflict," a three-year project which has as its fundamental objective the reduction of undesirable effects of socio-emotional conflict suffered by students. The overall project is being conducted under the direction of Mr. Wayne E. Bradshaw, Assistant Superintendent, Dothan City Schools. Principally, this report describes the effects of a special in-service training program for elementary school teachers on selected classroom behaviors of students. In addition, it describes a method of training lay observers to collect classroom behavioral data. An interim report based on data collected in September 1971 and January 1972 was presented in a briefing for Mr. Bradshaw. He was also briefed on the essential features of the present, complete report shortly after the final data collection.

"Comprehensive Services for Socio-Emotional Conflict" is a project which provides services to students through employment by the school system of a (1) Pupil Personnel Services team (2) special in-service training for teachers, and (3) use of services of a variety of special consultants. The in-service training is distributed over a three-year period and involves different teachers each year in a manner intended to maximize its benefits to the students throughout the school system. In-service training, including classroom management workshops conducted by HumRRO, was funded through a combination of local, Title I, Title III, and Title VI funds.

The work described in this report was performed by HumRRO Division Number 6, Dothan, Alabama, Dr. Wallace W. Prophet, Director. Dr. Paul W. Caro was the Project Director. The project staff included Mr. H. Alton Boyd, Dr. Joanne Dufilho, Mr. L. Paul Dufilho, Mrs. Kay Paulk, Mrs. Ernestine Pridgen, Mrs. Juanita Spezia, and Mr. William Mashburn.

The assistance and cooperation of Mr. Sam Price Jones, Superintendent, Dothan City Schools, was essential to the planning and conduct of this research and has been greatly appreciated. In addition, the following people were instrumental in the day-by-day performance of this study: the Media Center staff, the Pupil Personnel staff, elementary school teachers and principals, and the staff of the Superintendent's office.

WALLACE W. PROPHET
Director

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THE OCCURRENCE OF INAPPROPRIATE CLASSROOM BEHAVIOR AMONG ELEMENTARY SCHOOL STUDENTS

BACKGROUND

In the Dothan City Schools' study, "Comprehensive Services for Socio-Emotional Conflict," the effects of a special in-service teacher training program on the performance and behavior of students are being examined. The in-service program is intended to help teachers better deal with their students who suffer significant socio-emotional conflict problems. In evaluating this program a number of indices are being used. The present report deals with one of the principal measures of program effectiveness.

The teacher can be viewed as an intervening means to the achievement of the ultimate goal of the project, a beneficial effect on the students concerned. Thus, it can be said that the value of the special teacher training should be reflected in changes in the students. In keeping with a growing trend in educational research, the project has placed emphasis on achieving observable changes in student behavior, particularly in the classroom. To this end, two series of teacher workshops, aimed principally at classroom behavior change, were conducted during the 1971-72 school year as part of the special in-service training program.

The study reported here deals with specific classroom behavioral observation data gathered during the year. As stated, it was hoped that the special in-service training afforded selected elementary school teachers in the Dothan City Schools during the 1971-72 school year would manifest itself through beneficial changes in the behavior of their students, particularly those judged to be suffering from some significant form or degree of socio-emotional conflict.

METHOD

DESIGN

The study followed a 2 x 2 x 2 design with two treatment groups (teachers), two subject groups (students), and observations made at two different points in time (observations).

Treatment groups consisted of two groups of elementary teachers; those who received the special in-service training related to emotional conflict (N = 26), and a group of elementary teachers who did not receive such training (N = 59). Subject groups were two groups of elementary school students; students whose behavior or self-report during the preceding school year could be characterized as indicative of significant socio-emotional conflict (N = 160), and those whose behavior and self-report during the preceding school year gave no evidence of socio-emotional conflict (N = 99). Two sets of observations, pre- and post-study, were gathered, at the beginning and end of the 1971-72 school year, respectively. These observations of the occurrence of inappropriate behavior were made in the classroom by 22 observers specially trained for this purpose. The observations provided the data for analysis to assess the effects of the special in-service teacher training on student classroom behavior.

TREATMENTS (Teachers)

Two groups of elementary school teachers in the Dothan City Schools comprised the basic treatments being compared. The overall project is focused on the provision of special services to students with significant socio-emotional conflict through a special pupil personnel staff and through special in-service training for classroom teachers. In each of the 13 Dothan elementary schools two teachers, or "Building Representatives," were selected by school administrative personnel to receive the special in-service training during the 1971-72 school year. These 26 Building Representatives comprise one treatment group. From the remaining 165 elementary classroom teachers in the system, 59 were chosen on the basis of several factors. These 59 teachers constitute the second treatment variable and will be referred to as the "Other Teachers" group. They were selected on the basis of number of observers available for the study, coverage across schools and grade levels, and presence of appropriate subject students within their classrooms.

SUBJECTS (Students)

Two pools of students were identified. From these, the specific students on whom behavioral observations were to be made were selected. The Experimental Pool[1] consisted of those students whose previous behavior

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[1]The term "Experimental" is used here simply to denote that group of students of principal concern in the study, i.e., those students judged to be suffering socio-emotional conflict problems of a severity sufficient to cause inappropriate or undesirable classroom behavior of an unusual degree or kind. Such behavior would likely interfere with the learning or general adjustment of that student or of his peers. There were no "experimental" manipulations of these students in the more general usage of the term.

gave some indication of significant socio-emotional conflict. The Controls were those with apparent absence of such conflict. Operationally, Experimental students were selected on the basis of data from (1) an Exceptional Student Rating Form and/or (2) the Popham Self Appraisal Inventory (a measure of self-concept).[1] Both of these instruments were completed at the close of the preceding school year, the first by the preceding year's teacher, and the second by the student himself. A specimen of the Exceptional Student Rating Form, prepared by HumRRO for this project, is shown in Appendix B. The selection procedure was designed to identify those students exhibiting the highest degree of conflict-related behavioral exceptionality (as judged by the preceding year's teacher) and those exhibiting the weakest self-concepts (as indicated by student self-report on the Popham).

Specific criteria for selection of Experimentals were as follows:

(1) (Grades 1 - 6) Received an Exceptional Student Rating of "1" in one or more behavior categories.

(2) (Grades 1 - 3) Popham total scores equal to or less than 12.

(3) (Grades 4 - 6) Popham total scores equal to or less than 35.

Students selected for the Control Pool were also selected on the basis of Exceptional Student Rating Form and Popham scores. In addition, a HumRRO prepared semantic differential Pupil Rating Form (see Appendix B), also completed by the previous year's teacher, was used in selecting Controls. Control Pool students were required to meet all of the following criteria:

(1) (Grades 1 - 3) Popham total scores equal to or greater than 25.

(2) (Grades 4 - 6) Popham total scores equal to or greater than 60.

(3) The sum of "6" and "7" position ratings on the Pupil Rating Form must be "0" (i.e., the student must have received no "6" or "7" ratings).

(4) Must have received no nominations on the Exceptional Student Rating Form.

It was required that any student selected for either the Experimental or Control Pool have complete records on the Popham, the Student Rating Form, and the Exceptional Student Rating Form. Students who otherwise met the selection criteria but were (1) repeaters, (2) being taught by the same

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[1] These instruments (*Self Appraisal Inventory*) are available from the Instructional Objectives Exchange, Box 24095, Los Angeles, California, 90024.

teacher who had taught them the preceding year, or who (3) were then or would be students in a special education class--were excluded from selection in either pool. First-grade students had no Popham, Exceptional Student Rating Form, or Pupil Rating Form scores since they were not in school the previous year. However, since it was desired to gather some behavioral data on first graders, a number were selected randomly.

The following information was submitted by teachers for every classroom in all 13 elementary schools and was used for scheduling data collection:

(1) Student seating charts.

(2) The teacher's plan for organization of her day's work, i.e., when she usually scheduled reading and other subject matter, especially any scheduling of part-class activities such as reading groups.

(3) Schedules for recess, lunch, and physical education, as well as for any other special activities such as music or art--in general, any changes in classroom routine when students would not be expected to be in their assigned seats.

Other information used in scheduling data collection at each school included (1) enrollment by grade, (2) room assignment of teacher aides, (3) names of Building Representatives in the Pupil Personnel Program for the preceding and current years, and (4) names of those teachers in their first year of teaching.

The identification of students for the Experimental and Control Pools and the ultimate selection of specific students to be observed were performed by HumRRO personnel. Identities of the specific students observed were not known to the Dothan City Schools administrative personnel nor to the classroom teachers in whose rooms the observations were made. While the observers had to know which children were to be observed, they did not know which were Experimentals or Controls.

OBSERVATIONS

Observer Training. Twenty-eight women were initially selected by Dothan City Schools personnel for observer training in a HumRRO conducted workshop, but only 24 underwent training. Of these, 22 were selected for the actual data collection.

On September 20, 1971, the initial training session of a five-day workshop on the observation and recording of classroom behavior was held at Girard Avenue Elementary School. HumRRO personnel responsible for the workshop explained the purposes of the overall project and training program. Attendees were told that their training was intended to prepare them to observe and record, accurately and reliably, certain behaviors of selected pupils. These behaviors are described in Appendix A.

After the initial meeting, the trainee group was divided into workshop sections of 12 trainees each. Materials used in training included

(1) handouts describing categories of student behavior to be observed, (2) data record forms, (3) stopwatches, (4) clipboards, (5) pencils, and (6) practice data collection schedules. A total of 30 hours of training was administered over the five days. Twenty of the 30 hours' training were conducted at Girard Avenue Elementary School, and trainees spent the other ten hours in practice observation and data collection in the schools to which they had been assigned to collect the actual data.

During the remainder of the first workshop day the various categories of student behavior were explained, demonstrated, and discussed. The necessity for objective observation and recording was stressed. Initial practice sessions of observing and recording "student behavior" (with HumRRO personnel acting as "students") revealed considerable variation in trainees' practice data. Discussion of this variance increased trainees' appreciation of their own attending behavior, physical points-of-view, (e.g., sitting where the S students could be most efficiently observed), familiarity with categories of student behaviors, etc. Subsequent practice sessions reduced data variance.

The necessity for observer confidentiality regarding the data collection process was explained in terms of avoiding bias related to probable changes in student and teacher behavior as a function of knowing which students had been selected for observation. The importance of avoiding observer bias through the objective and unemotional collection of data was also discussed. The latter point was pertinent due to the personal acquaintance of some of the observer trainees with students and teachers in the classrooms to which they were assigned for data collection. Trainees were instructed on how to assume minimally noticeable roles in the classroom and how to minimize social interaction with students and teachers during data collection.

The second and third training days each consisted of six hours' practice observation and data recording in regular classrooms at Girard Avenue Elementary School followed by two hours' instructors' critique of the day's practice activities.

Practice observation and data collection on the fourth and fifth training days took place in the schools to which the observers were assigned for collection of actual data during the following week. The purpose of these practice sessions was to give observers the opportunity to identify those students whom they were to observe subsequently and to allow the students to adjust to the observer's presence in the classroom. A final two-hour critique of the practice data ended the training program.

Two of the 24 trainees consistently failed to demonstrate that they could collect practice data properly and were dropped from the observer pool.

The remaining 22 observers were assigned to schools by Dothan City Schools personnel primarily on the basis of their knowing and being known by the fewest students and teachers at those schools.

Data Collection Procedure. It was intended that two observers would collect data in eight classrooms at each of the 13 elementary schools. Of these eight classrooms, two would be classrooms of the current Building Representatives (scheduled for the special in-service training) and one the classroom of the previous year's Building Representative.[1] The other five were to be chosen largely on the basis of the intention that at least one class at each grade level in each school would be scheduled for observation. However, in each of four of the schools only one observer was assigned. Since it was felt that each observer could gather data on only four classes, it was not possible to observe in each of the six grades at those schools. At one school no first-grade classes were included because the class rosters and schedules were not received in time.

Five students and an alternate were selected for observation in each of the classrooms in which observations were to be made. As many Experimentals as possible were utilized so as to maximize the number of conflict students observed. To the extent that there were fewer than five Experimentals in a given classroom, Controls were utilized, and in the event there were not enough students from either pool in a classroom, names were chosen randomly from among the other students in that classroom. These students will be referred to as "Unclassified." On each Data Record Form, the name of a sixth student, or alternate, was added, in the event one of the five intended for observation was unavailable on the first observation day. If the alternate was substituted for this reason, he was also observed on subsequent occasions in lieu of the originally specified student. A sample Data Record Form is shown in Appendix C.

The study design called for each of 26 observers to be assigned five students in each of four classrooms for a total of 520 students on whom data would be collected. The availability of only 22 trained observers and the distribution of students selected for the two pools reduced the number of students to be observed to 440. Due to the relatively few students identified by the selection procedure for the Experimental and Control Pools at Montana Street, Lake Street, Highlands, and East Highland Schools, only one observer was assigned to each of these locations. Two of these observers (#15 and #24) were each assigned 15 students in three classrooms. A complete listing of number of students observed by observer, school, and grade is shown in Table 3 of Appendix D.

Two sets of observational data are analyzed in this report. The first was collected in September 1971, three weeks after the beginning of the school year, and the second in May 1972, three weeks prior to the end of the same school year. An Intermediate set of data was collected in January 1972 for an interim assessment, but is not reported here. Its purpose was to help maintain observer skills and to provide guidance to the in-service training program.

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[1] During the 1971-72 school year each of the 13 elementary schools had two "building representatives," i.e., teachers participating in the special in-service program. During the 1970-71 school year there was only one Building Representative from each school. Also, the 1970-71 in-service program differed somewhat from that of the 1971-72 school year.

Each observer collected data on the same students on all three occasions. As described in the Results section, however, some data were lost due to various kinds of schedule interference or absence of students or observers. Final post-study data (May 1972) were not collected on a number of students due to rulings made by the principals at two schools and failure of observers to show up to collect data.

Data were collected on five consecutive days during each of the three data collection periods (September, January, May). Six samples of student behavior per class period were recorded, resulting in a total of 30 possible observations per student for each of the five-day data collection periods.

Data were collected in the following manner. Observers entered their assigned classrooms at the beginning of the regular periods. The first 20 minutes were spent in an accommodation phase during which it was intended that the students, teacher, and observer would get accustomed to each other. The observer also used this time to locate the students to be observed. About 30 minutes were then spent in observing the five S students, one after the other, in a series of six observational sequences. Approximately one minute was spent on each observation, as follows. The observer visually identified the appropriate student, started the stopwatch, and closely watched the student's behavior for a timed 45 seconds. The observer then immediately recorded the occurrence or non-occurrence of each of the nine[1] behavior categories listed by that student's name on the Data Record Form, a process which usually took about 15 seconds. After recording the data, the observer looked up, identified the next student to be observed, and began the cycle over again. After all five assigned students had been observed once, the observer repeated the sequence of observations five more times. In this manner each student was observed for 45 seconds on each of six occasions at five-minute intervals during one class period per day for five consecutive days.

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[1]Eight of the categories were types of inappropriate behavior; the ninth category was "appropriate."

RESULTS

DATA FORMS SCORING

Separate scores were derived for each student for the observational data collected during the first (September) and third (May) data collection sessions. These scores were a function of the total number of inappropriate behavior categories a student was observed to exhibit and the number of times he was observed. The maximum number of observation periods possible on a given student was six per day, or a total of 30 within the five-day observation session. However, due to absenteeism and classroom interruptions, not all students were observed the maximum number of times.

A single score was obtained by summing the inappropriate behavior tally marks on the Observer Data Form for a given session and dividing by the total number of observation periods for which there were data. A tally mark represented the occurrence of a category or type of inappropriate behavior and not the frequency with which it occurred.[1] Therefore, the quotient from the above division is the mean number of inappropriate behavior categories a given student exhibited during an observation session. These derived scores were used in the statistical calculations reported in this section.

STUDENT SAMPLE

As previously stated, the observation sessions were scheduled to obtain behavioral data on a target population of 440 elementary school students. For this target population, data for 433 students were obtained during the first (September) observation session. This represented 99 per cent of the planned data matrix (N = 440). Table 1 outlines the distribution of these students by both student classification (Experimental, Control, First Graders, and Unclassified) and teacher category (Building Representatives and Other Teachers).

Data for 314 students were gathered in the third or final observation session in May 1972. The remaining 119 students, representing 27 per cent of the 433 initially observed, were not observed for one of the following reasons: absence of observer; student move, transfer, or absence; or administrative ruling by the principal of the school. Of the 314 with both pre- and post-observations, principal interest, of course, centered on the 160 Experimental students and the 99 Control students in this number. Therefore, the major analyses reported here and conclusions therefrom are based on these 259 students. Thus, the analyses are based on about 59 per cent of the original

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[1]Reference to the Observer Data Form in Appendix C shows that there were eight different categories of inappropriate behavior that could be reported. Thus, the maximum number of tallies that could be recorded for a single 45-second observation period was eight, regardless of the number of times any one of the behaviors occurred during the 45 seconds.

target population of 440 students.[1] The distribution of these students and of the 55 First Grade and Unclassified students is outlined in Table 2.

Table 1

NUMBER OF STUDENTS OBSERVED
DURING FIRST (SEPTEMBER) OBSERVATION SESSION

	Teachers		
Students	Building Representatives	Other Teachers	Totals
Experimental	73	148	221
Control	39	90	129
First Graders	0	65	65
Unclassified	8	10	18
Totals	120	313	433

Table 2

NUMBER OF STUDENTS OBSERVED
DURING BOTH OBSERVATION SESSIONS

	Teachers		
Students	Building Representatives	Other Teachers	Totals
Experimental	51	109	160
Control	30	69	99
First Graders	0	41	41
Unclassified	6	8	14
Totals	87	227	314

[1]Comparison of first observation data of the 314 students on whom both first and third observation data were gathered with those of the 119 students on whom only first observations were made reveals no significant differences. Thus, the Experimental and Control groups analyzed here can be viewed as representative samples of the two populations from which they were drawn.

The group of 314 students with both pre- and post-study observations was comprised of 51 per cent Experimental students, 32 per cent Control students, 4 per cent First Grade and 13 per cent Unclassified. About 28 per cent of the 314 students were in the classrooms of Building Representatives, while the other 72 per cent were in the classrooms of Other Teachers (i.e, non-Building Representatives).

Included in Appendix D are Tables that present a more detailed breakdown of the observed population by observer, school, grade and teacher.

DATA ANALYSIS

Experimental and Control students with complete data were of primary importance to this study. First Graders and Unclassifieds were of only secondary interest and are not discussed here.

The nature of the overall project design resulted in there being approximately twice as many Other Teachers as Building Representatives in the study. Because of the wide variety of uncontrollable factors that influenced the number of students on whom both first and third observations could be gathered, a Chi-Square analysis was performed to see whether the distribution of Experimental and Control students over the two teacher categories differed significantly. The frequencies involved are shown in Table 3. As can be seen, the Chi-Square value shows that the distribution of students does not differ significantly as a function of teacher category. Stated differently, the ratio of the number of Experimentals to the number of Controls was about the same for Building Representatives and Other Teachers.

Table 3

NUMBER OF STUDENTS BY STUDENT CLASSIFICATION AND TEACHER CATEGORY

	Teachers		
Students	Building Representatives	Other Teachers	Totals
Experimentals	51	30	81
Controls	109	69	178
Totals	160	99	259

$\chi^2 = 0.07$

$p > .80$

The next point of concern was whether or not the criteria used to assign students to the Experimental or Control groups were meaningful. It would be expected that Experimentals would exhibit a higher frequency of inappropriate behavior than would Controls. Table 4 shows means for Experimentals and Controls by teacher category for the first observation period. As can be seen, the frequency of inappropriate behavior was greater for the Experimentals. The difference between means for all Experimental and all Controls is statistically significant ($t = 2.69$; $p < .01$). Experimental-Control differences are very near the 5 per cent level for the separate teacher groups ($t = 1.99$ for Building Representatives and $t = 1.92$ for Other Teachers). Thus, the selection criteria would appear to be valid and some faith can be placed in the observational data as being reflective of the presence or absence of conflict problems. (See Appendix D for further descriptive statistics on these groups.)

Table 4

MEAN NUMBER OF INAPPROPRIATE BEHAVIOR CATEGORIES OBSERVED
(First Observation Period)

	Teachers		
Students	Building Representatives	Other Teachers	Totals
Experimentals	1.20	1.11	1.14
Controls	0.93	0.96	0.95
Totals	2.13	2.07	2.09

Comparisons were made (t tests) to determine if the behavior of Building Representative Experimental students differed initially from Other Teacher Experimental students and, likewise, if Building Representative Controls differed initially from Other Teacher Controls. Neither difference was significant. Thus, the method of selecting students to be observed for the two teacher groups produced equated student-groups for the two teacher categories.

Analyses were performed to compare the data obtained during the first observational session with the data obtained during the third observational session to determine if any change in frequency of inappropriate behavior had occurred for a given group of students. The principal such analysis was a three-way analysis of variance involving the following classifications:

A. Teacher Category

1. Building Representatives

2. Other Teachers

B. Student Category

1. Experimentals

2. Controls

C. Observation Period

1. First Observation (September 1971)

2. Third Observation (May 1972)

Table 5 sets forth the Analysis of Variance data.

Table 5

ANALYSIS OF VARIANCE SUMMARY TABLE
(Teacher X Student X Observation)

SOURCE	*df*	*ss*	*ms*
A (Teacher Category)	1	.29	.29
B (Student Category)	1	6.77	6.77
C (Observation)	1	1.77	1.77
AB	1	5.08	5.08
AC	1	1.13	1.13
BC	1	.26	.26
ABC	1	.69	.69
w Cells	517	180.62	.35
TOTAL	524		

The F ratio of greatest concern here is that testing the AB interaction. This F ($F = 14.51$; $df = 1,517$) is significant at the .001 level. Thus, there are significant interactions between Teacher Category (A) and Student Category (B) in the effects observed in student inappropriate behavior. There is a significant reduction in inappropriate behavior among the Control students for both Building Representatives and Other Teacher groups. However, for the Experimental students there was a significant reduction only for the Building Representative group. There was no change in inappropriate behavior between first and third observations for the Experimental students of the Other Teacher group. The Teacher Category factor does produce significant behavior differences

among Experimental students, but it makes no difference with reference to the behavior of Control students.[1]

Another way of viewing the effects of the Teacher and Student Category variables was to classify students into (1) those who exhibited a reduction in the number of inappropriate behavior categories noted from the first to the third observation periods and (2) those who exhibited an increase. Tables 6 and 7 present these data for Experimental and Control students respectively.

Table 6

DIRECTION OF INAPPROPRIATE BEHAVIOR CHANGE BY TEACHER CATEGORY (Control Students)

Teacher Category	Change in Inappropriate Behavior		Totals
	Increase	Decrease	
Building Representative	11	19	30
Other Teachers	26	43	69
TOTALS	37	62	99

$\chi^2 = 0.01$
Not significant

[1] It should be noted that there was a significant decrease in inappropriate behavior of Control students for both Teacher Category groups. Also, differences in Experimentals and Controls were significant across teacher groups and observation periods.

Table 7

DIRECTION OF INAPPROPRIATE BEHAVIOR
CHANGE BY TEACHER CATEGORY
(Experimental Students)

Teacher Category	Change in Inappropriate Behavior		Totals
	Increase	Decrease	
Building Representative	15	36	51
Other Teachers	55	54	109
TOTALS	70	90	160

$\chi^2 = 6.25$
$p < .02$

As can be seen from Chi Square values for Table 6, there was no difference in the relative probability of a decrease (or increase) in inappropriate behavior for Control students for the two teacher categories. For the Building Representatives, 19 (63 per cent) of their 30 Control students showed a decrease in inappropriate behavior from first to third observation periods. For the Other Teachers, 43 of 69 (62 per cent) of the Controls showed a reduction.

In marked contrast, though, there was a significant difference in the probability of decrease (or increase) in inappropriate behavior for Experimental students of the two teacher groups. Some 71 per cent of the Experimental students of the Building Representative group showed a reduction in inappropriate behaviors, while only 50 per cent of the Experimental students of the Other Teacher group showed a reduction. The Chi Square for Table 7 shows this difference over teacher groups to be significant.

These two Chi Square analyses reflect the same pattern as shown in the significant AB interaction in the analysis of variance. The Teacher Category variable (and presumably the in-service training on which it is based) is related to reduction in inappropriate behavior for Experimental students, but not to that for Control students.

The preceding analyses deal with the factor of main concern in the study, the effects of special teacher training on behavior of emotional conflict children. However, the following analyses are also of interest. The pattern of correlation between first and third observation period scores is consistent for the three student-teacher groupings in which there were significant reductions in inappropriate behavior. Correlations were low for Control students of both teacher groups and for Experimental students of the Building Representatives.

In contrast, the Experimental students of the Other Teacher group exhibited fairly high correlation between first and third observations. These correlations are shown in Table 8.

Table 8

CORRELATION OF FIRST AND THIRD OBSERVATION PERIOD SCORES BY STUDENT-TEACHER CATEGORIES

	Teachers	
Students	Building Representatives	Other Teachers
Experimentals	r = .38[b/]	r = .68[b/]
Controls	r = .38[a/]	r = .34[b/]

[a/] Significant at .05 level

[b/] Significant at .01 level

The three relatively low correlations suggest that teacher behavior operates selectively in changing the behavior of the students for the three groupings concerned. That is, where there are reductions in inappropriate behavior within a group, the reductions are not the same for all group members. As a consequence, the relative position of a given student within a group (in terms of amount of inappropriate behavior) changes with the resultant low correlation. On the other hand, for the group that showed no change over time in amount of inappropriate behavior, the group members tended to maintain their same relative position within the group.

In an attempt to understand better the effects of various aspects of the teacher training, an analysis of the relationship between teacher performance in the Contingency Management Workshop[1] conducted by HumRRO personnel and the student behavior data was made. One of the HumRRO research staff, who had been involved in the Contingency Management Workshop instruction, was asked to rank the teachers who participated in the workshop in terms of the probability that they could and would apply effectively in their classrooms the contingency management principles taught in the workshop. The Building Representative group was then dichotomized into a High half (those most likely to apply the principles effectively) and a Low half (those least likely to apply the principles effectively). The 51 Experimental students were then sorted for direction of inappropriate behavior change (i.e., decrease or increase from first to third observation period) on this basis. Table 9 shows these data.

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[1]Only the Building Representatives participated in this workshop.

Table 9

DIRECTION OF INAPPROPRIATE BEHAVIOR
CHANGE BY WORKSHOP PERFORMANCE CLASSIFICATION

Teacher Workshop Performance	Change in Inappropriate Behavior		Totals
	Increase	Decrease	
High	3	21	24
Low	11	16	27
Totals	14	37	51

$\chi^2 = 5.09$
$p < .05$

As can be seen, there was a substantial and significant relationship between teacher performance in the Contingency Management Workshop (as rated by the HumRRO researcher) and the likelihood of decrease or increase in inappropriate behavior by Experimental students. For the teachers rated High, 21 of their 24 Experimental students (88 per cent) showed a reduction in inappropriate behavior, while for those rated Low, only 16 of 27 (59 per cent) showed a reduction. Thus, it is reasonable to consider the contingency management in-service training program to be a significant factor in effecting beneficial change in student behavior.

DISCUSSION

The major concern of the overall project of which this study was a part is the amelioration of adjustmental and behavior problems of elementary school children judged to be suffering significant socio-emotional conflict. The means of achieving such benefit was to be through the efforts of classroom teachers who were given special in-service training relevant to the handling of students with conflict problems.

It is obvious that the manifestations of emotional conflict in students are complex and multi-faceted. The present study deals with certain specific classroom behaviors of such students, behaviors judged inappropriate for the classroom circumstances prevailing. The behavioral data gathered in this study are not represented to be a complete picture of the classroom behavior of these students, nor are they necessarily representative of the children's behavior in other situations. While it is quite reasonable to hypothesize a strong relationship between the exhibition of inappropriate behavior in the classroom and the likelihood of its occurrence in other situations, conclusions here must be confined to classroom behavior.

The data presented in this report are supportive of the thesis that those teachers who participated in the special in-service training, including the workshops on classroom management, managed their students in ways that resulted in a significant decrease in the occurrence of inappropriate classroom behavior by students who had previously been judged as exhibiting behavior indicative of significant socio-emotional conflict problems. In contrast, the conflict students of those teachers who did not receive the special training showed no change over the year in their tendency to exhibit behavior inappropriate to the classroom. Thus, it is reasonable to conclude that the two groups of teachers did produce differential effects on their students' behavior and that those effects are consonant with the hypothesis that the special in-service training would be beneficial.

These data suggest, too, that the child with a significant emotional conflict problem requires different techniques for handling and teaching--in short, a different method of classroom management--than does the child not suffering emotional conflict problems. The data show that the non-conflict children of both groups of teachers exhibited a significant reduction in the occurrence of inappropriate classroom behavior over the course of the school year. It would appear that the classroom management techniques of the typical teacher in the system are adequate for managing the occurrence of inappropriate behaviors on the part of these non-conflict children (who constitute a majority of students). Stated differently, those teachers who did not receive the special training were apparently able to handle the behavior of this group of children as well as those who received the special training. Of course, the training was targeted toward the problems of managing the children with emotional conflict difficulties, and, as noted, there was a differential effect with such children. The techniques of those teachers not receiving the special training apparently produced no change in the occurrence of inappropriate behavior on the part of conflict children. Thus, it would appear that special training is required to handle such children effectively, and that

regular teacher techniques tend to produce no change in the behavior[1] of such children.

It is worth noting, in addition, that the techniques used in this study--the method of identifying children with conflict problems, the method of observing and recording specific classroom behaviors (using lay personnel), and the classroom management techniques taught the teachers--seem to offer an excellent means of studying complex behavioral and personality problems through the use of relatively objective procedures. They facilitate the examination of the effects of teacher training and teacher behavior on student behavior and performance without the necessity of reliance on highly subjective assessments of the benefits gained from alternative educational practices. Such techniques are a necessary part of any study of educational accountability.

In summary, it may be concluded that the results are supportive of: (1) the need for special teacher training in classroom management techniques to meet the needs of children suffering socio-emotional conflict, and (2) the thesis that the special in-service training program provided teachers in this study resulted in their better being able to manage their students who suffer socio-emotional conflict problems.

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[1]The term "behavior" is used here with reference to the specific classroom behaviors or types of behavior studied. It is, of course, quite likely that there were other behavior changes, e.g., specifically the learning of school subject matter.

APPENDIX A

CATEGORIES OF STUDENT BEHAVIOR FOR USE OF
DOTHAN CITY SCHOOLS OBSERVERS

CATEGORIES OF STUDENT BEHAVIOR FOR USE OF DOTHAN CITY SCHOOLS OBSERVERS[1]

Gross Motor. Getting out of seat, standing up, running, hopping, skipping, jumping, walking around, moving chairs, disruptive movement without noise, striking at (but not touching) others, etc.

Object Noise. Tapping pencil or other objects, clapping, tapping feet, rattling or tearing paper, throwing book on desk, slamming desk. (Be conservative, rate only if you can hear the noise with eyes closed. Do *not* include accidental dropping of objects.)

Disturbance of Other's Property. Grabbing objects or work, knocking neighbor's books or other items off desk, destroying another's property, pushing with desk (rate only if someone is there), throwing objects at another person without hitting them. (Do not include accidental disturbance of other's property.)

Contact. Hitting, kicking, shoving, pinching, slapping, striking with object, throwing object which hits another person, poking with object, biting, pulling hair, touching, patting, etc. (any physical contact is rated.)

Verbalization. Carrying on conversations with other children when inappropriate. Answering teacher without raising hand or without being called on; making comments or calling out remarks when no questions have been asked; calling teacher's name to get her attention; crying, screaming, singing, whistling, laughing, coughing, or blowing loudly. (These responses may be directed to teacher or children or they may be undirected.)

Turning Around. Inappropriately turning head or head and body to look at another person, showing objects to another child, attending to another child. (Must be of 4-sec. duration, or more than 90 degrees--using desk as a reference. Not rated unless seated.)

Mouthing Objects. Bringing thumb, fingers, pencils, or any object into contact with the mouth.

Other Inappropriate Behavior. Ignoring teacher's question or command. Doing something different from that directed to do, including minor motor behavior such as playing with pencil or eraser when supposed to be writing, coloring while a record is on, doing spelling during the arithmetic lesson, playing with objects. *The child involves himself in a task that is not appropriate.*

Appropriate Behavior. Time on task, e.g., answering questions, listening, raising hand, working on assignments. (Must include whole observation interval except for Turning Around responses of less than 4-sec. duration.)

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[1]These categories of student behavior were adapted from "Behavioral Coding Categories for Children" in the article "Rules, Praise, and Ignoring: Elements of Elementary Classroom Control," by Charles H. Madsen, Jr., Wesley C. Becker, and Don R. Thomas, (Florida State University and University of Illinois), *Journal of Applied Behavior Analysis*, 1968, *I*, 139-150.

APPENDIX B

DOTHAN CITY SCHOOLS
Pupil Rating Form

DOTHAN CITY SCHOOLS
Room Rating Form
Exceptional Student Rating Form

DOTHAN CITY SCHOOLS
Pupil Rating Form

INSTRUCTIONS TO RATING TEACHER

This rating form consists of pairs of generally favorable and generally unfavorable words--one of each per pair. Each pair defines the limits of a continuum or scale describing some aspect of behavior, personality, or adjustment. Every pupil can be described in terms of his placement at some point on each continuum or scale. Your task is to circle a number from "1" to "7"--to describe each of your pupils on each of the scales listed. Circling the number "1" indicates that, in your opinion, the pupil is best described by the more favorable of the two words, i.e., the word on the left. Circling the number "7" indicates he is best described by the less favorable word. You may circle any number "2" through "6" to indicate that he is somewhere between the two extremes. The numbers "2" and "3" are favorable, while "5" and "6" are unfavorable, and "4" is about midway between the two extremes. Please be sure, however, to look at both words defining a scale before making your judgment. Most pupils will probably fall toward the more favorable end of the scales. Examples of the scales are shown below. Please complete one answer sheet (all scales) for each pupil currently enrolled in your class. Mark only one number on each scale.

EXAMPLE

agreeable	1	2	3	4	5	6	7	disagreeable
happy	1	2	3	4	5	6	7	sad

DOTHAN CITY SCHOOLS
Pupil Rating Form

Pupil _____ School _____

Teacher _____ Grade _____

agreeable	1	2	3	4	5	6	7	disagreeable
happy	1	2	3	4	5	6	7	sad
friendly	1	2	3	4	5	6	7	hostile
sociable	1	2	3	4	5	6	7	withdrawing
cooperative	1	2	3	4	5	6	7	antagonistic
secure	1	2	3	4	5	6	7	anxious
industrious	1	2	3	4	5	6	7	lazy
self-confident	1	2	3	4	5	6	7	timid
trustworthy	1	2	3	4	5	6	7	deceitful
easy-going	1	2	3	4	5	6	7	quarrelsome
attentive	1	2	3	4	5	6	7	inattentive
adaptable	1	2	3	4	5	6	7	non-conforming
energetic	1	2	3	4	5	6	7	listless
even-tempered	1	2	3	4	5	6	7	bad-tempered
cheerful	1	2	3	4	5	6	7	depressed
obedient	1	2	3	4	5	6	7	defiant
courteous	1	2	3	4	5	6	7	disrespectful
cautious	1	2	3	4	5	6	7	impulsive
flexible	1	2	3	4	5	6	7	compulsive
mature	1	2	3	4	5	6	7	infantile
calm	1	2	3	4	5	6	7	restless
compassionate	1	2	3	4	5	6	7	malicious
tractable	1	2	3	4	5	6	7	stubborn
modest	1	2	3	4	5	6	7	arrogant

DOTHAN CITY SCHOOLS
Room Rating Form
Exceptional Student Rating Form

School _____ Grade _____

Rating Teacher _____ Date _____

INSTRUCTIONS: Read each paragraph below and indicate by name any pupil or pupils in your room this school year who tend to act in the manner described. No pupil will act as illustrated in all respects, but there may be one or more in your room who generally act in the manner described. If so, list them in order in the spaces provided. If there are more than four pupils who fit a particular paragraph, list only the four who best fit it. You may have less than four to list for one or more of the paragraphs, and you may list any pupil under more than one paragraph.

A child who is AGGRESSIVE commits one or more of the following kinds of acts with relative frequency: hitting, punching, kicking, slapping, striking with hands or objects; throwing objects at others; pulling hair; disturbing others' books, desk, etc.; destroying another's property. If there were pupils in your room this year whom you consider particularly AGGRESSIVE, list them below in order.

Most aggressive _____

Second most aggressive _____

Third most aggressive _____

Fourth most aggressive _____

A child who is VERBALLY DISRUPTIVE commits one or more of the following kinds of acts with relative frequency: talks to others when not permitted, interrupts teacher; interrupts other pupils' recitations; calls teacher's name to get attention; laughs, coughs, etc., to get attention; makes frequent "wise cracks" in class. If there were pupils in your room this year whom you consider particularly VERBALLY DISRUPTIVE, list them below in order.

Most verbally disruptive _____

Second most verbally disruptive _____

Third most verbally disruptive _____

Fourth most verbally disruptive _____

Room Rating Form - 2

A child who is SOCIALLY INSECURE commits one or more of the following kinds of acts with relative frequency: speaks in a very soft voice; avoids playing with other pupils; speaks in halting voice; keeps to self; contributes to class only when called upon; remains in seat more than most pupils; avoids being first at anything; shirks from notice. If there were pupils in your room this year whom you consider particularly SOCIALLY INSECURE, list them below in order.

Most socially insecure _____

Second most socially insecure _____

Third most socially insecure _____

Fourth most socially insecure _____

A child who is BEHAVIORALLY DISRUPTIVE commits one or more of the following kinds of acts with relative frequency: gets out of seat without permission; runs and/or jumps around the classroom and halls; rocks seat; taps pencil; drops books; plays with objects during study periods; picks up books, etc., of other pupils; touches other pupils' desks. If there were pupils in your room this year whom you consider particularly BEHAVIORALLY DISRUPTIVE, list them below in order.

Most behaviorally disruptive _____

Second most behaviorally disruptive _____

Third most behaviorally disruptive _____

Fourth most behaviorally disruptive _____

A child who has LOW SELF-ESTEEM commits one or more of the following kinds of acts with relative frequency: professes inability to do assignments; fails to undertake assigned work; expresses self-criticism; avoids competitive situations; avoids responding to the teacher's questions; turns in assignments late; takes more time to answer questions than most other pupils; expresses satisfaction with poor performance. If there were pupils in your room this year whom you consider to have particularly LOW SELF-ESTEEM, list them below in order.

Lowest in self-esteem _____

Second lowest in self-esteem _____

Third lowest in self-esteem _____

Fourth lowest in self-esteem _____

Room Rating Form - 3

A child who is EMOTIONALLY OVER-REACTIVE commits one or more of the following kinds of acts with relative frequency: cries; soils clothes; loses temper; throws things (not necessarily at people); destroys things; over reacts to criticism; shouts at others; accuses others when anything goes wrong. If there were pupils in your room this year whom you consider particularly EMOTIONALLY OVER-REACTIVE, list them below in order.

Most emotionally over-reactive _____

Second most emotionally over-reactive _____

Third most emotionally over-reactive _____

Fourth most emotionally over-reactive _____

APPENDIX C

DOTHAN CITY SCHOOLS
Observer Data Form

OBSERVER _____

DOTHAN CITY SCHOOLS
OBSERVER DATA FORM

School _____ Teacher _____ Grade _____ Room No. _____ Date _____ Time _____

STUDENT	1st OBSERVATION									2nd OBSERVATION									3rd OBSERVATION								
	GM	ON	D	C	V	TA	MO	OIB		AB	GM	ON	D	C	V	TA	MO	OIB		AB	GM	ON	D	C	V	TA	MO	OIB		AB

	4th OBSERVATION									5th OBSERVATION									6th OBSERVATION								
	GM	ON	D	C	V	TA	MO	OIB		AB	GM	ON	D	C	V	TA	MO	OIB		AB	GM	ON	D	C	V	TA	MO	OIB		AB

GM - Gross Motor
ON - Object Noise
D - Disturbance of Other's Property
C - Contact
V - Verbalization
TA - Turning Around
MO - Mouthing Objects
OIB - Other Inappropriate Behavior
AB - Appropriate Behavior

APPENDIX D

Table 1
Descriptive Statistics for Student Sample
with First and Third Observational Data

Table 2
Population of Experimental and Control Students
Observed during the First and Third Sessions
by School and Grade

Table 3
Frequency of Students Observed by School,
Observer, Grade Level, Experimental Condition
and Observation Period

Table 1

DESCRIPTIVE STATISTICS FOR STUDENT SAMPLE
WITH FIRST AND THIRD OBSERVATIONAL DATA

Observation Session	Statistic	Building Representatives		Other Teachers	
		Experimental Students	Control Students	Experimental Students	Control Students
FIRST	Mean	1.20	0.93	1.11	0.96
	Standard Deviation	0.77	0.42	0.55	0.42
	Number	51	30	109	69
THIRD	Mean	0.90	0.75	1.13	0.78
	Standard Deviation	0.73	0.40	0.72	0.40
	Number	51	30	109	69

Table 2

POPULATION OF EXPERIMENTAL AND CONTROL STUDENTS OBSERVED DURING THE FIRST AND THIRD SESSIONS BY SCHOOL AND GRADE

	First	Second Grade		Third Grade		Fourth Grade		Fifth Grade		Sixth Grade		Totals	
		Exp.	Cont.	Exp.	Cont.	Exp.	Cont.	Exp.	Cont.	Exp.	Cont.	Exp.	Cont.
Cloverdale	5	5	0	3	2	8	1	4	4	5	2	25	7
E. Highlands	5	1	4	0	0	3	0	2	2	0	0	6	6
Girard	4	5	0	4	1	5	0	7	0	8	2	29	3
Grandview	0	4	1	6	4	6	4	0	0	4	0	20	9
Heard	3	3	1	2	3	5	5	3	7	4	0	17	16
Highlands	0	0	0	0	4	6	2	0	0	0	0	6	6
Lake St.	4	5	0	1	3	2	3	0	0	0	0	8	8
Montana	4	0	0	0	0	1	2	1	1	3	1	5	4
Rose Hill	0	0	0	0	0	0	0	0	0	0	0	0	0
Selma	0	2	2	4	1	0	0	5	0	3	2	14	5
Southside	4	3	6	5	0	2	6	1	4	2	2	13	18
Stringer	5	0	0	0	0	1	4	4	0	1	1	6	5
Wilson St.	7	1	4	4	3	3	1	2	1	1	3	11	12
N =	41	29	18	29	21	42	28	29	19	31	13	160	99
		47		50		70		48		44		259	

Table 3

FREQUENCY OF STUDENTS OBSERVED BY SCHOOL, OBSERVER, GRADE LEVEL, EXPERIMENTAL CONDITION AND OBSERVATION PERIOD

OBSERVER		FIRST GRADE		SECOND GRADE					
		Complete 1st Obs. Data	Only	Complete Data Exp.	Cont.	Alt.	First Obs. Only Exp.	Cont.	Alt.
Heard	1	0	0	0	0	0	0	0	0
Heard	2	3	2	3	1	0	1	0	0
Wilson St.	3	3	2	1	4	0	0	0	0
Wilson St.	4	4	1	0	0	0	0	0	0
Cloverdale	5	5	0	5	0	0	0	0	0
Cloverdale	6	0	0	0	0	0	0	0	0
Selma	7	0	5	0	0	0	0	0	0
Selma	8	0	0	2	2	0	0	1	0
(Not assigned)	9								
Montana	10	4	1	0	0	0	2	2	0
Girard	11	4	1	0	0	0	0	0	0
Girard	12	0	0	5	0	0	0	0	0
Lake St.	13	4	1	5	0	0	0	0	0
(Not assigned)	14								
Highlands	15	0	0	0	0	0	0	0	0
(Not assigned)	16								
Grandview	17	0	0	4	1	0	0	0	0
Grandview	18	0	0	0	0	0	0	0	0
Southside	19	4	1	0	1	0	0	0	0
Southside	20	0	0	3	5	0	0	0	0
E. Highlands	21	5	0	1	4	0	0	0	0
(Not assigned)	22								
Rose Hill	23	0	5	0	0	0	5	0	0
Rose Hill	24	0	0	0	0	0	0	5	0
Stringer	25	5	0	0	0	0	0	0	0
Stringer	26	0	5	0	0	0	0	0	0
Totals		41	24	29	18	0	8	8	0

Table 3 (Continued)

OBSERVER		THIRD GRADE						FOURTH GRADE					
		Exp.	Cont.	Alt.	Exp.	Cont.	Alt.	Exp.	Cont.	Alt.	Exp.	Cont.	Alt.
Heard	1	2	3	0	0	0	0	2	3	0	0	0	0
Heard	2	0	0	0	0	0	0	3	2	0	0	0	0
Wilson St.	3	2	3	1	0	0	0	0	0	0	0	0	0
Wilson St.	4	2	0	0	0	0	0	3	1	3	0	0	0
Cloverdale	5	0	0	0	0	0	0	0	0	0	0	0	0
Cloverdale	6	3	2	0	0	0	0	8	1	0	1	0	0
Selma	7	0	0	0	4	1	0	0	0	0	4	1	0
Selma	8	4	1	0	0	0	0	0	0	0	0	0	0
(Not assigned)	9												
Montana	10	0	0	0	0	0	0	1	2	2	0	0	0
Girard	11	4	1	0	0	0	0	0	0	0	0	0	0
Girard	12	0	0	0	0	0	0	5	0	0	0	0	0
Lake St.	13	1	3	1	0	0	0	2	3	0	0	0	0
(Not assigned)	14												
Highlands	15	0	4	0	0	1	0	6	2	0	0	2	0
(Not assigned)	16												
Grandview	17	0	0	0	0	0	0	4	1	0	0	0	0
Grandview	18	6	4	0	0	0	0	2	3	0	0	0	0
Southside	19	4	0	0	0	1	0	1	2	1	0	0	0
Southside	20	1	0	0	0	0	0	1	4	0	0	1	0
E. Highlands	21	0	0	0	0	0	0	3	0	0	1	0	0
(Not assigned)	22												
Rose Hill	23	0	0	0	3	2	0	0	0	0	0	0	0
Rose Hill	24	0	0	0	3	2	0	0	0	0	2	1	2
Stringer	25	0	0	0	0	0	0	1	4	0	0	0	0
Stringer	26	0	0	0	5	0	0	0	0	0	5	0	0
Totals		29	21	2	15	7	0	42	28	6	13	5	2

Table 3 (Continued)

OBSERVER		FIFTH GRADE						SIXTH GRADE					
		Exp.	Cont.	Alt.	Exp.	Cont.	Alt.	Exp.	Cont.	Alt.	Exp.	Cont.	Alt.
Heard	1	1	4	0	0	0	0	4	0	0	0	1	0
Heard	2	2	3	0	0	0	0	0	0	0	0	0	0
Wilson St.	3	0	0	0	0	0	0	1	3	1	0	0	0
Wilson St.	4	2	1	0	2	0	0	0	0	0	0	0	0
Cloverdale	5	4	4	0	0	0	0	1	1	0	0	0	0
Cloverdale	6	0	0	0	0	0	0	4	1	0	0	0	0
Selma	7	0	0	0	0	0	0	0	0	0	3	2	0
Selma	8	5	0	0	0	0	0	3	2	0	0	0	0
(Not assigned)	9												
Montana	10	1	1	1	1	0	1	3	1	0	1	0	0
Girard	11	4	0	0	1	0	0	3	2	0	0	0	0
Girard	12	3	0	0	2	0	0	5	0	0	0	0	0
Lake St.	13	0	0	0	0	0	0	0	0	0	0	0	0
(Not assigned)	14												
Highlands	15	0	0	0	0	0	0	0	0	0	0	0	0
(Not assigned)	16												
Grandview	17	0	0	0	0	0	0	4	0	0	6	0	0
Grandview	18	0	0	0	1	3	0	0	0	0	0	0	0
Southside	19	0	0	0	0	0	0	2	2	0	0	1	0
Southside	20	1	4	0	0	0	0	0	0	0	0	0	0
E. Highlands	21	2	2	1	1	0	0	0	0	0	0	0	0
(Not assigned)	22												
Rose Hill	23	0	0	0	4	0	1	0	0	0	0	0	0
Rose Hill	24	0	0	0	0	0	0	0	0	0	0	0	0
Stringer	25	4	0	0	1	0	0	1	1	3	0	0	0
Stringer	26	0	0	0	0	0	0	0	0	0	2	3	0
Totals		29	19	2	13	3	2	31	13	4	12	7	0

N = 433.